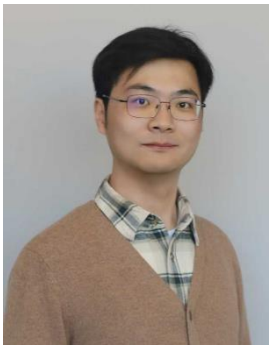

Bo YU

>ResearchGate >Linkedin

Ph. D Candidate
Zhejiang University, China

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Research Interests

Synthetic polypeptides for biomedical application | Supramolecular interactions in functional materials
Bioactive boronic acid esters | Oxidative stress-adaptive materials | Precise theranostic systems

Education

09/2020-Present **Ph.D candidate**, Polymer Materials, Zhejiang University (expected 03/2026)
09/2016-08/2020 **Bachelor**, Polymer Materials and Engineering, Zhejiang University

Research Experience

03/2025-Present **Visiting researcher, University of Bayreuth, Bayreuth, Germany**
Supervisor: Prof. Dr. Seema Agarwal
Topic: Effect of polymer architectures and functional group type on antimicrobial efficiency
- Polypeptide synthesis based on ring-opening polymerization of *N*-carboxyanhydrides
- Post-modification of polypeptides

09/2020-Present **Ph. D thesis, Zhejiang University, Hangzhou, China**
Supervisors: Prof. Dr. Qiao Jin, Prof. Dr. Jian Ji
Topic: ROS-responsive boronate esters for precise theranostics of acute kidney injury
- Design, synthesis and characterization of oxidative stress-responsive boronate esters for theranostics of kidney injury, based on antioxidants and fluorescent probes
- Fabrication of nanomedicines via supramolecular interactions
- Evaluation of anti-inflammatory efficacy *in vitro* and *in vivo*

09/2019-08/2020 **Bachelor thesis, Zhejiang University, Hangzhou, China**
Supervisor: Prof. Dr. Qiao Jin
Topic: A supramolecular nitric oxide nano-delivery system for prevention of tumor metastasis by inhibiting platelet activation and aggregation
- Synthesis of polypeptide-based host-guest assemblies for nitric oxide delivery
- Evaluation of anti-tumor and anti-metastasis efficacy *in vitro* and *in vivo*

07/2019-08/2019 **Visiting student, University of Bayreuth, Bayreuth, Germany**
Supervisor: Prof. Dr. Andreas Greiner
Topic: Synthesis of completely bio-based polycarbonate
- Polymerization of trans-limonene epoxide and CO_2 for sustainable chemistry

11/2017-06/2019 **Student Research Training Program, Zhejiang University, Hangzhou, China**
Supervisor: Prof. Dr. Jun Ling
Topic: The effect of rare earth catalysts on *Janus Polymerization*
- Copolymerization of *N*-ethyl glycine *N*-thiocarboxyanhydride and tetrahydrofuran using Schlenk techniques

Research Expertise

- **Organic synthesis:** Polypeptide carrier design, Boronate ester functionalization
- **Supramolecular materials:** Self-assembly construction, Nanostructural characterization
- ***In vitro*/*in vivo* evaluation:** Drug-induced kidney injury, Fluorescence diagnostics, ROS-responsive therapy

Languages

Chinese, English, German (Learning)

Publications

Published:

[+]Equivalent contribution

1. F. Jia[+], **B. Yu**[+], J. Li, F. Cai, G. Fu, Q. Jin, J. Ji: Supramolecular nano-assembly of caffeate-strengthened phenylboronic ester with multistep ROS scavenging ability for targeted therapy of acute kidney injury. *Adv. Healthc. Mat*. 12, 2301615 (2023) DOI: 10.1002/adhm.202301615
2. **B. Yu**, Y. Deng, F. Jia, Y. Wang, Q. Jin, J. Ji: A supramolecular nitric oxide nanodelivery system for prevention of tumor metastasis by inhibiting platelet activation and aggregation. *ACS Appl. Mater. Interfaces* 13, 48515 (2022) DOI: 10.1021/acsami.2c15882
3. J. Ye[+], **B. Yu**[+], H. Hu, D. Zhou, Q. Jin, J. Ji, Z. Tang: Verteporfin-loaded supramolecular micelles for enhanced cisplatin-based chemotherapy via autophagy inhibition. *J. Mat. Chem. B* 10, 2670 (2022) DOI: 10.1039/D1TB02583J
4. **B. Yu**, Q. Jin, J. Ji: Natural products applied in acute kidney injury treatment: polymer matters. *Biomat. Sci.* 12, 621 (2023) DOI: 10.1039/D3BM01772A
5. H. Gao, T. Zhang, Y. Lei, D. Jiao, **B. Yu**, W. Yuan, J. Ji, Q. Jin, D. Ding: An organophosphorescence probe with ultralong lifetime and intrinsic tissue selectivity for specific tumor imaging and guided tumor surgery. *Angew. Chem. Int. Ed.* 63, e202406651 (2024) DOI: 10.1002/anie.202406651
6. J. Zhao, J. Fu, F. Jia, J. Li, **B. Yu**, Y. Huang, K. Ren, J. Ji, G. Fu: Precise regulation of inflammation and oxidative stress by ROS-responsive prodrug coated balloon for preventing vascular restenosis. *Adv. Funct. Mat.* 33, 2213993 (2023) DOI: 10.1002/adfm.202213993
7. Y. Huang, Y. Chen, Z. Lu, **B. Yu**, L. Zou, X. Song, H. Han, Q. Jin, J. Ji: Facile synthesis of self-targeted Zn^{2+}-gallic acid nanoflowers for specific adhesion and elimination of gram-positive bacteria. *Small* 19, 2302578 (2023) DOI: 10.1002/smll.202302578
8. J. Li, J. Zhang, P. Yu, H. Xu, M. Wang, Z. Chen, **B. Yu**, J. Gao, Q. Jin, F. Jia, J. Ji, G. Fu: ROS-responsive & scavenging NO nanomedicine for vascular diseases treatment by inhibiting endoplasmic reticulum stress and improving NO bioavailability. *Bioact. Mat.* 27, 239 (2024) DOI: 10.1016/j.bioactmat.2024.03.010

Submitted:

1. **B. Yu**, S. Wang, F. Jia, Y. Huang, W. Dai, J. Ji, Q. Jin: A Self-alarming nanoantidote for early urinary diagnosis and antioxidative therapy of acute kidney injury. *Nat. Commun.* (Under review)
2. **B. Yu**, Z. Xiong, S. Wang, F. Jia, W. Dai, H. Zhang, Q. Jin, J. Ji: Unexpected supramolecular self-assembly of platinum catcher for preventing cisplatin-induced kidney injury with potentiated chemotherapeutic efficacy. *J. Am. Chem. Soc.* (Under review)